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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Stefan Grozinger

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KENYON & KENYON LLP
ONE BROADWAY
NEW YORK, NY 10004

EXAMINER

BAISA, JOSELITO SASIS

ART UNIT

PAPER NUMBER

2832

MAIL DATE

DELIVERY MODE

07/22/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/580,509	Applicant(s) GROZINGER ET AL.	
	Examiner JOSELITO BAISA	Art Unit 2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. See Response to Arguments below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masahiro et al. [JP2002280237] in view of Woody et al. [5703462].

Masahiro discloses an ignition coil of an ignition system in an internal combustion engine, comprising: a housing 150; a magnetically active core 110; a first coil winding 120; a second coil winding 130 connected to a high-voltage terminal; and at least one electrically conductive component 110 having, at least in some areas, an arrangement for an electrically effective evening out of its surface (shown Figures 4 and 5b), wherein the arrangement is formed by sheathing 111 which has a smooth surface, the arrangement having at least one

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straight side ; wherein the sheathing is extruded; wherein the electrically conductive component is the magnetically active core 110 [Page 2, Paragraph 7-11 , Figures 2, 4 and 5b].

Masahiro discloses the instant claimed invention discussed above except for having the sheathing layer made of electrically conductive plastic.

Woody discloses conductive plastics as sheathing layer [Col. 2, Lines 34-37].

It would have been obvious to one having ordinary skill in the art at the time of the invention to use conductive plastics as sheathing layer as taught by Woody.

The motivation would have been to provide EMI shielding on inductive devices [Col. 2, Lines 34-37].

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Masahiro in view of Woody as applied to claim7 above, and further in view of Takeyama et al. [20040108931].

Masahiro in view of Woody discloses the instant claimed invention discussed above except for the electrically conductive component is a peripheral core of a compact ignition coil.

Takeyama discloses an electrically conductive component 106 is a peripheral core of a compact ignition coil [Page 1, Paragraph 4, Figure 13].

It would have been obvious to one having ordinary skill in the art at the time of the invention to use a peripheral core as taught by Takeyama to the structure of Masahiro in view of Woody.

The motivation would have been to contain the magnetic flux density within the device.

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Claim 13-16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Masahiro et al. [JP2002280237].

Masahiro discloses an ignition coil of an ignition system of an internal combustion engine, comprising; a housing 150; a magnetically active inner core 110, which is surrounded by a primary winding and a secondary winding (120, 130); and a magnetically active outer core 140; wherein at least the inner core 110, the primary winding and the secondary winding (120, 130) being surrounded by a cast resin 154 for fixing in the housing, wherein the inner core 110 is surrounded by a first electrically conductive plastic 111 covering the inner core 110 on a side facing the primary winding, and the outer core is surrounded by a second plastic 154 covering the outer core on a side facing the secondary winding; and wherein the plastic covers onto the inner core and the outer core as a coating [Page 2, Paragraph 7-11 and 14 , Figures 2, 4 and 5b].

Masahiro discloses the instant claimed invention discussed above except for the second plastic covering is electrically conductive.

Masahiro however, discloses the first plastic (111) covering the inner core 110 to be electrically conductive. It would have been obvious to one having ordinary skill in the art at the time of the invention to use the same material to cover the outer core 140 instead of just an insulating layer 154.

The motivation would have been to control the corona discharge between core and winding [Paragraphs 10 and 65].

Regarding claim 14, the claimed thickness of each of the first and second plastic coverings between 0.1 and 1.0 mm cannot be relied upon since applicant has not disclosed that

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the use of such thickness would significantly solve any stated problem or is for any different particular purpose than that of the Prior Art and it appears that the invention would perform equally well with the electrically conductive covering of Masahiro.

Regarding claim 15, Masahiro discloses the plastic covering 111 has a smooth surface on the side facing the primary and secondary winding [Page 2, Paragraph 7-11 , Figures 2, 4 and 5b].

Regarding claim 16, Masahiro discloses the inner core 110 and the outer core 140 are each made up of a core stack having a plurality of punched single sheets [Paragraphs 4, 54-56].

Response to Arguments

Applicant's arguments with respect to claims 7-16 have been considered but are not persuasive.

Applicant argues in the reply submitted on 12 May 2009 that Masahiro in view of Woody does not have arrangement that suggest, the electrically conductive component having an arrangement for an electrically effective evening out of its surface, the arrangement having at least one edge.

Applicant stated in its remarks that Masahiro, for example, at page 2, paragraph 7, and page 3, paragraph 14, center core 110 is formed in the shape of an approximate circle pillar. The wrap tube 111, which is formed around the approximate circle pillar center core 110, is tubular,

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as indicated in Figures 4 and 5b and throughout the specification. Therefore the tube 111 wrap around a circular pillar would have a straight side and therefore **does not have any edges**.

Applicant alleges that since wrap tube 111 does not have any *faces*, it cannot have any flat surfaces, and therefore can not even out any other surfaces. The Examiner believes that the flat surfaces mean edges.

Examiner points out that in the Applicant's Specification, page 2, lines 26-33, that *edges* as well as corners and points on electrical conductive parts (i.e., core) represent a potential electrical breakdown risk. The Examiner's understanding is that the Applicant's invention would like to eliminate these uneven features, in particular at the core's side, to prevent electrical breakdown. An excerpt of the Specs and an annotated Figure 3 are shown below.

- 20 The risk of an electrical breakdown is determined not only by the potential difference, but also by the intensity of the electric field applied between the high-voltage winding and the particular electrically conductive component. The electric field intensity is highly dependent on the geometric conditions present. In particular, for physical reasons, corners or pointed surface contours of the particular
- 25 component result in local increases in the field intensity, which in turn favor an electrical breakdown. Corners, points, or edges on electrically conductive parts situated in the range of influence of the high voltage thus represent a potential electrical breakdown risk in an ignition coil.
- 30 The magnetically active core is usually made of stamped individual metal sheets packed to form a stack of a certain height. Therefore, the stack has numerous corner-like or pointed uneven features, in particular at its sides, which may result in strong excessive field intensities and therefore in a breakdown during the operation

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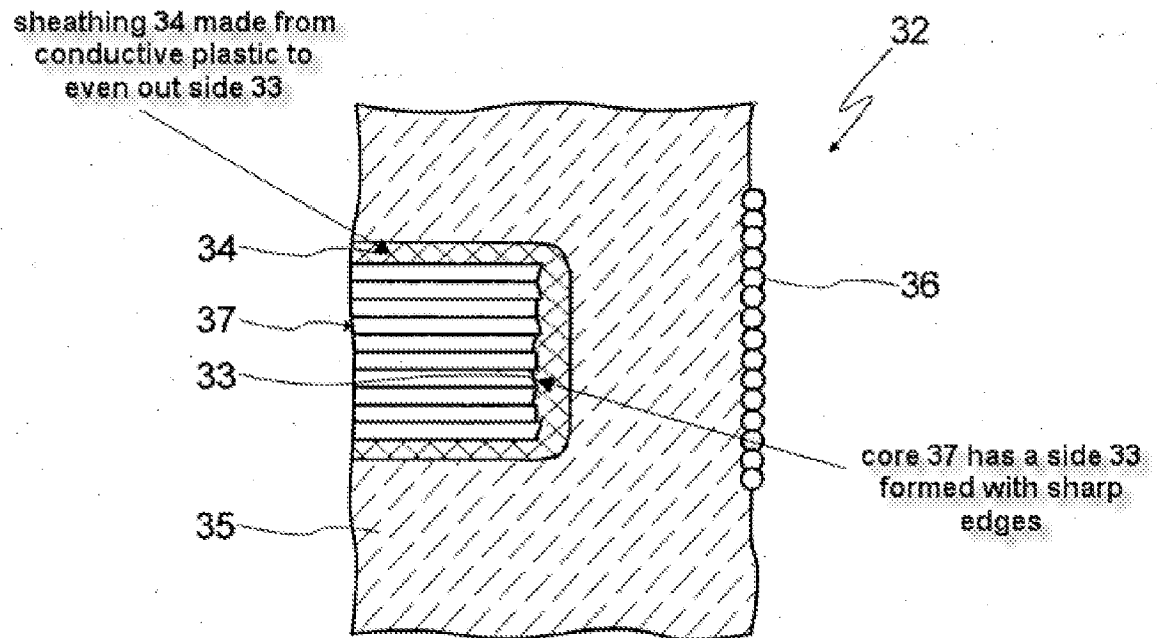


Fig. 3

The Applicant's invention is about using an electrically conductive component, which is a form of electrically conductive sheathing that has a *smooth surface* (as indicated in page 3, lines 27-29) to get rid of the edges.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSELITO BAISA whose telephone number is (571)272-7132. The examiner can normally be reached on M-F 5:30 am to 2:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Elvin G Enad/
Supervisory Patent Examiner, Art Unit 2832

Joselito Baisa
Examiner
Art Unit 2832

/J. B./
Examiner, Art Unit 2832